HEADS OF LECTURES

ON THE

INSTITUTIONS OF MEDICINE.

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ON THE

INSTITUTIONS OF MEDICINE.

BY

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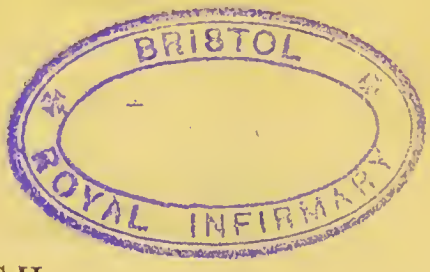
THE SEVENTH EDITION,

WITH SOME ADDITIONS AND CORRECTIONS.



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PREFACE

TO THE

SIXTH EDITION.

THE following Heads of Lectures have already been repeatedly presented to the Public. When they were reprinted in the year 1796, they appeared with very considerable alterations from the former editions. To these alterations I was chiefly led, from having abandoned the chemical doctrine of Phlogiston, and from having adopted the theory of the late illustrious and unfortunate LAVOISIER, which is at present received by almost every Philosopher in Europe.

When the present edition is compared with that which immediately preceded it, published in 1801, the alterations which have been made will not appear to be very considerable. Still, however, the changes are such as will, I think, shew, that I am not inattentive to the progress of science, especially of those branches of science which have the most immediate tendency to elucidate the animal economy. Though the same general doctrines in Philosophy, particularly in Chemical Philosophy, still prevail, yet many particular points have of late been happily illustrated by successful experiments.

Of the discoveries thus made, I have endeavoured to avail myself; and I would fain flatter myself with the hope, that these discoveries may enable me to elucidate several important particulars respecting the economy of the human system, a subject, well meriting the attention of every one, whose wish it is to practise the healing art

on rational principles: For there can be no doubt, that a knowledge of the structure and philosophy of the human body, is the great criterion, distinguishing the rational practitioner, from the ignorant empiric.

EDINBURGH,
Nov. 1. 1809.

PREFACE

TO THE

SEVENTH EDITION.

ALTHOUGH more than twelve years have elapsed, since these Heads of Lectures were last committed to the press, yet I have not found it necessary to make many alterations or additions, when they are now again presented to the public. A careful comparison, however, of the present, with the preceding edition, will I trust demonstrate to the intelligent reader, that although far advanced in life, now in the seventy-eighth year of my age, I am not inattentive to the

progress of Medical Philosophy. And after having regularly delivered, during every Winter-Session, for more than half a century, a course of Lectures on the Institutions or first principles of Medical Science, it will I hope appear, that my best endeavours are still exerted, with undiminished zeal, to afford instructions to my hearers.

College of Edinburgh,
January 1. 1822.

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I.

Morbi partium solidarum simplicissimi ex Institutionibus Pathologiæ, auctore H. D. Gaubio.

I. Debilitas.
  A. Salvâ cohæsione.
    a. Laxum, flaccidum in partibus mollibus.
    b. Iners in partibus naturâ elasticis.
    c. Flexile in ossibus.
  B. Dissolutâ cohæsione.
    a. Tenerum, Gracile, in mollibus partibus.

b. Tabidum itidem in mollibus.
c. Fissile in partibus natura tenaciobus.
d. Fragile in ossibus.

II. Rigiditas.

A. Firmitas insuperabilis.
a. Tenax, in partibus mollibus.
b. Durum, in mollibus quoque.
c. Fragile, Vitreum, in ossibus.
B. Fragilitas flecti nescia.
a. Tenax, in partibus mollibus.
b. Durum, in mollibus quoque.
c. Fragile, Vitreum, in ossibus.

II.

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A. With respect to the force of cohesion.

a. Debility with flexibility.
Debile tenerum gracile. Gaub. 161. 1.
Debile tabidum. Gaub. 171. 2.
a. from an overplus of water,
from original stamina,
from weak aliment,
from want of aliment,
from weak concoction,
from increased excretion,
from imperfect application.
b. from weak cohesion of the concreting matter,
from heat,
from vitiated nutritious fluid,
from matter externally applied, water, mucilage, &c.
c. from extension near to rupture.
d. from extension of cellular texture,
from erosion of cellular texture,
from cutting through some layers of a compound membrane,
from taking away external compression.
e. Emptiness of vessels.
b. Debility with fragility.

Debile fissile. *Gaub.* 161. 3.
from want of humidity,
from cold,
from changes in the concreting matter.

B. With respect to flexibility, cohesion remaining.

a. Laxity with elasticity.

Debile laxum flaccidum. *Gaub.* 160. 1.
from all the causes of, I. 1. A. *a.* except c.
from want of tension.

b. Laxity without elasticity or flaccidity.

Debile iners. *Gaub.* 160. 2.
from an overplus of water,
from long rest in an extended state,
from a certain overstretching.

2. Mobility of the parts too little, or rigidity.

Rigidum. *Gaub.* 164.

A. Rigidity diminishing flexibility.

Rigidum tenax. *Gaub.* 165. 1.

a. from an overplus of concreting matter,
from original stamina,

from much or very nourishing aliment,
from vigorous concoction,
from vigorous application.

b. from increased cohesion of the concreting matter.
from cold,
from external application of coagulents, astringents, &c.

c. from considerable extension.

d. from long rest in a contracted state.

e. from the condensation of cellular texture.

f. from a new growth of cellular texture.

g. from the shortening of cellular texture.

h. from a new growth of cellular texture joining parts naturally separate.

i. from full vessels.

k. from vessels becoming solid.

B. Rigidity destroying flexibility.
Rigidum durum. Gaub. 165. 2.
from ossification,
from putrefaction.

II. Those of the naturally hard parts.

1. Flexibility.

Debile flexile. Gaub. 160. 3.

A. from deficiency of hardening matter.

B. from the softening and washing out of hardened matter.

2. Fragility.

A. Spongeous.

Debile fragile spongiosum. Gaub. 160. 4.

a. from erosion of gluten and oil.

b. from putrefaction of the same.

B. Vitreous.

Rigidum fragile vitreum. Gaub. 165. 3.

a. from too great drying by age.

b. from deficiency of oil.

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a. Firmness morbidly increased.
b. ——— ——— diminished.
c. Cohesion morbidly increased.
d. ——— ——— diminished.
e. Flexibility morbidly increased.
f. ——— ——— diminished.
g. Elasticity morbidly increased.
h. ——— ——— diminished.

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2. *Muscular Fibre.*

General characterising properties of the muscular fibre—Sensible qualities—Colour—Weight—Smell—Taste—Cohesion—Structure—Figure—Elasticity—Flexibility—Examination of the opinion which supposes that muscular fibres are a continuation of nerves—Objections to this opinion—Principles detected in muscular fibres by chemical analysis—Fibrine—Gelatine—Albumen—Extractive matter—Muriate and

phosphate of soda—Phosphate of lime—Observations on the pathology of the muscular fibre in its simple state—Morbid weakness—Morbid strength.

3. *Cellular Membrane.*

OPINIONS at first entertained respecting cellular membrane—Its extent over the system—its general qualities—Colour—Texture—Cohesion—Communication of cells—Disputes respecting its sensibility—Different opinions of its origin—Arguments for supposing it to be produced from the glutinous part of the blood—Use of the cellular membrane—Differences between the cellular or simple and complex membranes of the body—Pathology of the cellular membrane—Firmness morbidly increased—Elasticity morbidly diminished.

4. *Vessels.*

ARTERIES—Cohesion and strength of arteries—Changes which gradually take place in the proportional strength of the arteries

to that of the veins—Elasticity of the arteries—Flexibility—Division into ramifications—Different views of the division of arteries—Trunks—Branches—Capillaries—Proportion which the area of a trunk bears to that of all its branches—Different calculations on this subject—Angles at which branches come off from trunks—Anastomosis of arteries—Terminations of arteries—into veins—into secretory extremities—into exhalent extremities—different kinds of exhalents—Disputes respecting the irritability of arteries—View of an opinion which supposes, that a peculiar set of nerves are appropriated to the vascular system—Pathology of the arteries—morbid dilatation—morbid contraction—ossification.

VEINS. Analogy between the veins and the arteries—comparison of the strength of the veins with that of the arteries—Proportion between the strength of the vena cava and aorta—Proportion between the diameters of the veins and arteries—Valves of the veins—Beginnings of the veins—View of the controversy, whether

they ever arise from cavities—Pathology of the veins.

LYMPHATICS. Observations on the discovery of the valvular lymphatic absorbent vessels—General appearance of these vessels—Strength—Valves—Course—Termination—Observations on the lymphatic glands—Examination of the opinion which supposes, that the lymphatics and bloodvessels anastomose in these glands—Examination of Mr Hewson's opinion respecting the use and structure of the lymphatic glands—Use of the lymphatic system in general—Extent of this system of vessels over the human body—Extent over animal bodies in general—Pathology of the lymphatics.

5. *Fat.*

CONDITION of the fat in the living body of the human species—Places in which it is principally found—The manner in which it is deposited in cells—General properties of fat—changes to which it is subjected in the progress of life—Chemical a-

nalysis—Oleaginous matter—Sebacic acid —Capable of different degrees of oxydation —Conversion of some other animal substances into fat—Opinions respecting the composition of fat—Varieties in the quantity of fat—Causes of these varieties—Causes producing the removal of fat after it has been deposited—Different opinions as to the channels by which it is conveyed from the cells of the membrana adiposa—Uses of the fat—Arguments brought to prove, that, on re-absorption, it serves for the nutrition of the system—Doubts respecting that opinion —Pathology of fat—Polysarcia.

6. *Bone.*

General appearance and qualities of bone in the adult—Account of its progress to this state—Appearance of the first rudiments of bone in the embryo—Gradual changes which these undergo—Different opinions as to the process by which these changes are effected—Observations on the opinion, that bone is formed by the ossification of arteries—Account of

different opinions respecting the growth of bones — Opinion which supposes the circulation of an osseous juice—Opinion which supposes the ossification of successive layers of the periosteum—Observations on the structure of bone—Observations on the component parts of bone—Glutinous matter—Earthy matter—Phosphate of Lime—Carbonate of Lime—Chemical analysis of bone—Observations respecting the glutinous matter of bone, and the universality of the same matter over the animal system—Pathology of bone—Osteomalacia—Caries—Necrosis.

Concerning the Principal Functions of the most important Organs of the Human Body.

Of the Functions in General.

Observations on animal life—on the distinction between the sentient and vital principles—on the powers of living animals more immediately dependent on the sentient principle—on those dependent on the vital principle—on the powers depending on their combined influence—Sensation—Causes exciting sensation—Circumstances by which changes are effected in sensations, independently of their causes—from difference in the condition of the sentient principle—a state of excitement—a state of collapse—from differences in the con-

dition of the nervous fluid—a state of mobility—a state of torpor—Muscular action—general causes of action—Volition—Stimulus—Diversity of actions in living animals—voluntary actions—actions with propensity — involuntary actions — actions without consciousness.

Of Particular Functions.

I. *Digestion.*

Observations on the nature of the function of digestion—Different opinions respecting the general principle on which this function is to be explained—Antecedent circumstances to the process of digestion—The appetite for aliment of a fluid nature or thirst—Causes inducing it—Appetite for solid aliment or hunger—Different opinions respecting the causes of hunger—Variety in the substances used as food—Conditions necessary in all alimentary matters—Steps in the process of digesting these—Solution—Chylification.

Circumstances tending to solution, to which the aliment is subjected before entering the Stomach—Circumstances to which it is subjected after it enters the stomach—Trituration—The action of different menstrua—Arguments corroborating the opinion, that a peculiar active menstruum is furnished by the stomach—Observations on the diversity of this menstruum in different animals—The fermentation taking place in the stomach—its influence in dissolving solid food—in correcting putridity—general conclusion respecting the means of solution in the stomach.

Chylification or assimilation—Inquiry whether all matters nourishing the system assume the form of chyle—Examination of different opinions respecting the formation of chyle—Inquiry whether chyle is to be considered as a new product, or as a mixture of parts previously existing in alimentary matters—Arguments by which the latter supposition is rendered probable—Causes by which an intimate combination may be supposed to be effected.

Morbid affections of the Function of Digestion.

I. Defective solution of aliment.

1. From the state of action exerted by the stomach.
2. From the state of the menstruum acting upon the aliment.
   a. As not being supplied in sufficient proportion.
   b. As being defective in solvent power.
   c. As undergoing morbid changes, counteracting this power.

II. Improper assimilation.

1. From the state of the ingesta.
2. From the degree of heat in the stomach.
3. From the muscular action of the stomach itself.
4. From different matters acting as assimilating ferments in the stomach.

2. *Circulation.*

Discovery of the circulation—Course of the blood in the human body.

Powers by which the blood is moved in the course of circulation—The action of the heart—Calculations respecting the force of that action—Reasons why it is neither attended with volition nor consciousness—The action of the arteries—Controversy, whether the arteries act from a muscular power, or for simple elasticity—Examination of the evidence brought respecting the existence of a muscular coat in the arteries—Examination of the evidence respecting the irritability of arteries — Comparison of the power of the heart, with the causes retarding the motion of the blood—Inquiry, how far a proof of the natural action of arteries can be drawn from diseased states.

The vibratory or oscillatory motion of the capillary vessels—Observations on the arguments brought in proof of such a motion—from the insufficiency of other causes for moving the blood through these vessels—from phenomena, particularly in morbid cases—inquiry, how far this action can be considered as peculiar to the capillaries.

Action of the veins—In what it differs from that of the arteries—Why it wants the systole and diastole, obvious in the action of the arteries—Why it is merely tonic and not clonic muscular action—Evidence that it is not the mere effect of elasticity—from the discharge of blood in venæsection—from the blood being after death, not in the arterial but principally in the venous system.

Observations on the *vis a tergo*, as it has been called, or the impulse given by one portion of blood to another—The extent of this action as a cause of the blood's motion.

Effects of the pressure on the bloodvessels from the action of voluntary muscles—The means by which this is rendered a cause of progressive motion of the blood—The extent to which it operates in the human system.

Varieties taking place with respect to the course of the circulation— in the fœtus—in the liver—in the brain.

Changes produced in the blood by circulation—Loss of caloric—Loss of oxygene

— Deposition of fibrine and albumen — Change to a more hydrogenated and carbonated state.

Morbid affections of Circulation.

I. Affections with respect to the state of motion of the blood.

1. Preternatural increase of the celerity of motion. *Pulsus celer.*
   a. From the stimulus exciting the action, of the heart and arteries being augmented.
   b. From the irritability of the heart and arteries being augmented.
2. Preternatural diminution of the celerity of motion. *Pulsus tardus.*
   a. From the stimulus acting on the heart and arteries being diminished.
   b. From the want of due irritability in these organs.
3. Preternatural increase of the momentum of the blood. *Pulsus validus.*
   a. From a peculiar irritability in the organs producing the motion of the blood.

b. From a determined quantity of blood in motion.

c. From a certain degree of tonic power in the moving organs.

4. Preternatural diminution of the momentum of the blood. *Pulsus debilis.*

a. From the want of a proper quantity of blood in motion.

b. From the want of due irritability in the moving organs.

c. From the want of due tonic power in these organs.

5. Irregularity in the motion of the blood.

a. From circumstances producing an irregular supply of blood at the heart. *Pulsus irregularis.*

b. From circumstances affecting the condition of irritability in the vascular system.

II. Affections with respect to the distributions of the blood.

1. Increased determination to any particular part.

a. From causes increasing the irritability of the vessels in the part.

b. From causes augmenting the flow of blood in these vessels.

2. Preternatural diminution of the flow of blood to particular parts.

a. From causes diminishing the irritability or tonic power of the vessels leading to the part.

b. From accidents diminishing the flow of blood to the vessels leading into the part.

3. *Of Nutrition.*

The sense in which the term nutrition is here to be adopted—View of the controversy, whether the nutritious fluid be conveyed by the bloodvessels, or by the nerves.

Examination of the arguments brought to support the hypothesis, that the nutritious fluid is conveyed by the nerves—Arguments in support of this opinion, drawn from the primary existence of the nervous system—from changes which the solids

undergo, when communication by the nerves is intercepted—from the size of the head in infancy—from the quantity of blood carried to the brain—from the method of nutrition in the vegetable kingdom—Answers to these arguments—Objections to this hypothesis—from the qualities of the only fluid that can be supposed to be conveyed by the nerves—from the diminution of nutrition while the nervous functions remain entire—from the growth and nourishment of parts of the system not furnished with nerves.

Examination of the opinion which supposes, that the nutritious fluid is conveyed by the bloodvessels—Arguments in support of the probability of this opinion—from analogy—from the fitness of the fluid which they convey for the purposes of nutrition—from the universality of the sanguiferous system—from the gradual evolution of the different solids—from the effects arising from the interruption of bloodvessels—from the nutrition of organs by the inosculation of bloodvessels, although they be unconnected by any other means.

The application of nutritious matter—Growth—from elongation of vessels—from extension of fibres—from accretion of cellular texture—from deposition of earth, fat, or other matter—Reparation of waste—Circumstances counteracting nutrition, or causes of the *decrementum corporis*.

Morbid Affections of the Function of Nutrition.

I. Preternatural diminution of nutrition.

a. From the want of a due quantity of nutritious matter.

b. From the want of necessary qualities in the nutritious matter.

c. From an improper application of the nutritious matter.

II. Preternatural increase of nutrition.

a. From an unusual supply of nutritious matter.

b. From a strong disposition to coagulation in the nutritious fluid.

c. From accidents promoting the application of the nutritious fluid to the staminal solids

III. Imperfect nutrition.

a. From peculiarities in the nature of the nutritious matter.

b. From peculiarities in the mode of application.

4. *Of Secretion.*

Account of the different organs by which the function of secretion is performed—glands—vessels—pores—Controversy, whether follicles exist in glands or not—Examination of different hypotheses respecting secretion—The supposition, that secreted fluids pre-exist in the blood, and that glands act as filters—The supposition, that secretion depends upon a peculiar fermentation—The supposition, that it depends on a peculiar action of the vessels—The supposition that it depends on absorption from follicles.

General view of the different causes which may be supposed to operate in secretion—Circumstances which may have effect previous to the action of the secreting organ—Circumstances operating in

the secreting organ itself—Circumstances which may have effect posterior to the action of the secreting organ—fermentation—absorption—mixture—General use of secretion.

Morbid Affections of Secretion.

1. From increase.
2. From diminution.
3. From depravation.

Causes of Morbid Affections of Secretion.

1. The state of the pabulum furnished for secretion.
2. The state of action of the secreting vessels.

5. *Of Absorption.*

Observations on the vessels by which absorption is performed—Question, whether the veins of the sanguiferous system ever act as absorbents—View of the arguments brought in proof of absorption by veins—from what is observed to happen with respect to the mesenteric veins—from what happens with respect to the veins of the

penis—from œdematous swellings being produced by ligatures on veins—from the supposition that lymphatic absorbents are wanting in many parts of the body, and in some animals—Objections to the hypothesis, that the sanguiferous veins ever act as absorbents—General conclusion.

Arguments proving that the valvular lymphatics are entirely a set of absorbent vessels—from the analogy of the lacteals —from the progress of virus in the system, venereal, cancerous, or the like—from the similarity between the contents of the lymphatics and those of the cavities from which they arise.

Causes producing the motion of fluids in the absorbent system—The means by which fluids enter absorbents—The necessity of the continuance of life for their admission — Different opinions respecting the manner in which the mouths of the lymphatics may be supposed to be affected by life—The supposition of ampullæ or bags—The supposition of the erection of villi similar to the papillæ of the tongue — General conclusion — The means by

which fluids are moved in the lymphatics after having entered them.

Morbid Affections of Absorption.

I. Preternatural increase of absorption.

a. From causes facilitating the admission of fluids into the mouths of the lymphatics.

b. From causes facilitating the motion of fluids through the lymphatics.

II. Preternatural diminution of absorption.

a. From a diminution of the action of the lymphatic vessels.

b. From causes obstructing the passage of fluids through the lymphatics.

6. *Of Excretion.*

Remarks on the function of excretion in general—Causes most commonly producing excretion—Muscular action of the excretory—The action of the vessels of the secreting organ—Accidental causes of ex-

cretion—Remarks on the excretion of the fœces and urine in particular.

Morbid Affections of Excretion.

I. Excretion morbidly increased.

a. From unusual stimuli applied to the excreting organ.

b. From an augmentation of the sensibility of the excreting organ.

a.a. Arising from increased mobility of the nervous power.

b.b. Arising from a diminution of the natural coverings of parts.

II. Excretion morbidly diminished.

a. From the want of a due stimulus to the excreting organ.

b. From uncommon insensibility of that organ.

III. Depraved excretion.

a. From a peculiar state of sensibility in the excretories.

b. From preternatural stimuli being applied to excretories.

7. *Of Respiration.*

Observations on different conditions in the function of respiration—Respiration as a voluntary action—as an action with propensity—as an involuntary action—as an action without consciousness.

Actions by which the enlargement and diminution of the cavity of the thorax are produced—Circumstances commonly considered as giving rise to the enlargement of the thorax—the contraction of the diaphragm—the elevation of the ribs—the rarefaction of the air after its admission into the cavity of the thorax—Circumstances commonly considered as producing a diminution of the cavity of the thorax—relaxation of the muscles producing enlargement—the elasticity of the mediastinum—the contraction of the abdominal muscles—the elasticity of the cartilages and ligaments of the ribs—the contraction of muscles attached by one extremity to the ribs, and by the other to parts below

—the weight of the ribs—the elasticity of the lungs—the contraction of the muscular fibres of the bronchiæ—Remarks on the opinion which supposes an expansive power of the lungs.

A view of different theories of respiration—Examination of the opinion which accounts for the alternate actions of respiration—from obstructions to circulation—from the compression of the phrenic nerves—from an uneasy sensation at the end of expiration—Different accounts of the cause of the first inspiration, by those who have adopted this last hypothesis—Inquiry how far this hypothesis explains all the different states of respiration—Reasons for believing that in the ordinary state of respiration the power of the mind has no influence—Arguments shewing that in this state respiration is exactly similar to other spontaneous actions.

Explanation of ordinary respiration from an alternate contraction and relaxation of the diaphragm, independently of the influence of the will—Arguments showing, that the diaphragm may be con-

sidered as being in a situation analogous to the heart—Cause of the first contraction of the diaphragm in the new-born infant—cause of the first relaxation—cause of subsequent contractions and relaxations —Principles upon which respiration may at pleasure be subjected to the influence of the will, although in its ordinary state it may be considered as arising from muscular action, without sensation or consciousness—Account of some objections which have been urged against this hypothesis—Answers to these objections.

Observations on the use of respiration —View of different opinions respecting the use for which it is intended—to promote circulation through the lungs—to introduce air into the blood— to introduce nitre into the blood — to promote the intimate mixture of different parts of the blood—to condense the blood —to cool the blood— to generate heat—to draw something useful from the air—to allow the escape of a particular matter from the lungs—Arguments in proof of this last supposition—from the qualities of

the air expired—from the change which the blood undergoes in point of colour by passing through the lungs—Answers to objections which have been brought against this opinion respecting the use of respiration — from the fœtus in utero existing without respiration—from the want of respiration in fishes—Farther proof of the hypothesis from this last circumstance — and from the connection which universally subsists between the degree of respiration necessary for life, and the colour of the blood in different animals.

Morbid Affections of Respiration.

I. Those respecting the repetition of action.
   a. Respiration preternaturally quickened.
   b. Respiration preternaturally slow.

II. Those respecting the sensation excited.
   a. Painful respiration.
   b. Difficult respiration.

III. Those respecting the manner in which respiration is performed.

a. Respiration with uncommon noise.
b. Respiration with less noise than in the natural state.

CAUSES of difficult RESPIRATION: From the INSTITUTIONES PATHOLOGIÆ of Dr GAUBIUS, arranged by Dr CULLEN.

Respiratio fit difficilis,—

I Ob conditionem aëris,
1. Nimis rari.
2. Nimis calidi,
3. Nimis densi.

II. Ob angustiam viarum per quas aër transit in pulmones.
1. Faucium,
2. Glottidis,
3. Tracheæ.

III. Ob conditionem pulmonis minùs apti ad admittendum vel expellendum aërem; propter,
1. Vitium in potentiis motricibus affectis,
A. Spasmo vel constrictione, ab

a. Aëre nimis frigido,
b. Aëre inquinato,
c. Causis variis internis quæ agunt mediatè vel immediatè.

B. Rigiditate ab ossefactis bronchiis.
C. Paralysi.
D. Actione propter dolorem inhibitâ.

2. Capacitatem pulmonum imminutam.
A. Obstructionem vel obstipationem.
a. Humoribus, muco, sero, sanguine, pure, in bronchiis effusis.
b. Humoribus, præsertim muco, vel calculo folliculis membranæ mucosæ infarctis.
c. Humoribus intra vasa congestis.
a. Plethora.
b. Inflammatione.
c. Scirrho.
B. Compressionem externam.
a. Tumore pulmonibus innato.

b. Tumore partium vicinarum intra thoracem.
c. Obesitate partium intra thoracem.
d. Humoribus in thoracem effusis.
e. Cavitate thoracis imminutâ.
aa. Ab ipsius mala formatione.
bb. Ab aucta mole abdominis.
a. Ob aquam vel aërem ibi accumulatum.
b. Ob viscus quoddam mole auctum.

HEADS of the OBSERVATIONS to be offered on the Causes of MORBID RESPIRATION.

I. Causes depending on the condition of the air.
a. Density.
b. Rarefaction.
c. Heat.
d. Coldness.
e. Mephitic impregnations.

II. Causes depending on the state of the passages or cavities into which the air enters.

a. Contraction of passages.
b. Rigidity of cavities.
c. Compression of cavities.
d. Cavities being filled with other matters.

III. Causes depending on the state of the organs enlarging or diminishing those cavities.

a. Spasmodic affections.
b. Paralytic affections.
c. Inflammatory affections.

8. *Of animal Heat.*

A SHORT state of the principal facts respecting animal heat—Universality of the power of generating heat over the animal creation—Extent of heat in different species of animals—Uniformity in the same species—Heat of the human species—its stability in different temperatures of the atmosphere—Connection between the degree of heat peculiar to different animals, and the colour of the blood—Varieties in heat

occurring from disease—Connection which these varieties, when occurring over the system in general, have with the state of circulation and respiration—Exceptions to this general rule—Morbid varieties in the heat of particular parts—Connection of these with the state of the circulation at the part.

View of different theories respecting the cause of animal heat—Examination of the opinion which supposes, that animal heat is to be accounted for from mixture—from putrefaction—from friction—from respiration—from the nervous energy—An attempt to refute all these opinions.

Account of the theory of heat in general, and of animal heat in particular, proposed by Dr Crawford—Account of the opinion of Mr Rigby—of Mr John Hunter—of M. Lavoisier, Seguin, &c

Account of the hypothesis, that the sensible heat, generated by living animals, is produced by the caloric in the blood passing from a latent to an active state; that this transition is the consequence of a chemical change in the blood, from carbonat-

ed hydrogen being evolved: and that this evolution is effected chiefly by the action of the vessels to which the blood is subjected—Explanation of some particulars which may occur as objections to this hypothesis—Attempt to render it probable, from endeavouring to prove the following propositions—1. That the blood contains both caloric and carbonated hydrogen. 2. That the evolution of the carbonated hydrogen, in consequence of the action of the vessels, to which the blood is subjected in the course of circulation, produces the transition of caloric from a latent to an active state. 3. That as much sensible heat may be produced by this means as any animal is ever observed to generate. 4. That this hypothesis affords a satisfactory explanation of the principal phenomena of animal heat, particularly the most intricate and apparently contradictory phenomena.—Explanation of the general connection of the heat of the body with the state of the blood's motion—of the exceptions which occur to this rule—of the equality of heat over the system—of the

exceptions to this rule in morbid cases —of the uniformity of heat in the same animal while in health, although exposed to great diversity of temperature—of the connection of animal heat with respiration —of its connection with the colour of the blood in different animals.

Observations on the use of this power of generating heat, possessed by living animals—its influence as preserving the fluids of the system in a proper condition—its influence on the solids—its influence on the nervous power.

Morbid Affections of Animal Heat.

I. Preternatural increase of the heat of the body.

a. From an increased action of the bloodvessels.

b. From an increase of hydrocarbon in the blood.

c. From an increase of caloric in the blood.

d. From a diminution of those excretions which preserve the stability of the fluids.

II. Preternatural diminution of the heat of the body.

a. From a diminished action of the bloodvessels.

b. From a diminution of hydrocarbon in the blood.

c. From the want of a due supply of caloric to the blood.

d. From an increase of particular excretions.

9. *Of Muscular Motion.*

OBSERVATIONS on the phenomena of muscular motion—Manifest changes which muscles undergo upon contraction — in length—in thickness—in bulk—in hardness—in colour—Causes inducing the action of muscles—stimuli—volition—Circumstances in muscles with which their action is connected — peculiar configuration—contractile power — free communication with the sensorium, by the intervention of nerves — Different theories of muscular action — Account of the hypothesis which supposes muscular action to

proceed from the immediate influence of the mind—from the figure of muscular fibres—from fermentation in muscles—from blood rushing into muscles—from motions of the nervous fluid.

Use of muscular action—Primary use—Secondary consequences—in giving figure to parts—in giving texture—in promoting the motion of fluids in the body—in preserving the general health of the system—in giving greater facility of action to the moving fibres.

Morbid Affections of Voluntary Motion.

I. Those in which the influence of the will is counteracted.

1. Spasmodic affections.
2. Convulsive affections.

F om uncommon stimuli.

b. From peculiar sensibility.

II. Those in which the influence of the will is impaired or lost.

a. From causes impeding the course, or altering the condition, of the nervous power.

b. From accidents giving uncommon rigidity to the moving fibres.

10. *Of the External Senses.*

REMARKS on the external senses in general—Observations respecting the variety in the external senses—Inquiry how far this variety may be accounted for from a difference in the nerves themselves—from a difference in the state of the extremities of the nerves—from the modification of impressions by the apparatus at their extremities—Observations on particular senses —Sense of Touching—organs employed in touching—the external objects from which these organs are fitted to receive impressions—the use of this sense to the system—Remarks on the principal morbid affections of the sense of touching—Sense of Tasting — organs employed — objects from which these organs are fitted to receive impressions—use of tasting—Remarks on the principal morbid affections of the sense of tasting—Sense of Smelling —organs employed—external objects from

which these organs are fitted to receive impressions — use of smelling — Remarks on the principal morbid affections of the sense of smelling — Sense of Hearing — organs employed — external objects from which these organs are fitted to receive impressions — use of hearing — Remarks on the principal morbid affections of the sense of hearing — Sense of Seeing — organs employed — external objects from which these organs are fitted to receive impressions — use of vision — Remarks on the principal morbid affections of the sense of vision.

11. *Of the Internal Senses.*

Remarks on the functions to be considered under the general title of Internal Senses — Observations on the general agency of the mind over the body — Inquiry respecting the seat of connection between the mental and corporeal parts of the system — Inquiry how far a particular configuration of the brain is necessary for

this connection — Conjectures respecting the causes on which the diversity in the mental faculties depends—Conjectures respecting the causes of the differences which occur in the mental faculties of the same individual at different times—Observations with regard to particular internal senses—imagination — judgment—memory—volition.

Morbid Affections of the Internal Senses.

I. Those depending on imperfect exertion of the mental faculties.

II. Those depending on erroneous exertion.

a. From increased impetus of the circulation at the brain.

b. From diminished impetus there.

c. From compression of the brain.

d From irritation of the brain.

Observations on different modifications of delirium—Delirium ferox—Delirium mite.

12. *Of Sleep.*

Account of the phenomena of sleep —Inquiry respecting its nature—Examination of the opinion which supposes sleep to depend on the exhaustion of the nervous fluid—Examination of the opinion which supposes it to depend upon compression of the brain—Examination of the opinion which ascribes sleep to exhausted irritability—Objections to these hypotheses—Inquiry how far sleep may not be referred to a law of the mind, by which, during its connection with the body, it has a constitutional disposition to alternate states of activity and rest—Conjectures respecting the manner in which those circumstances act, which either produce sleep, or protract watchfulness—Observations respecting the animals which remain in a torpid state during the winter season—Circumstances in which winter torpor differs from natural sleep—Conjectures as to the difference of the causes on which they depend—Inquiry how far torpor from cold may be ascribed

to a change induced on the state of the nervous fluid—Observations on the principal morbid affections of sleep—Pervigilium — Immodica dormitio — Somnia — Somnambulatio—Incubus.

13. *Of Death.*

General observations on the nature of death—Observations on different causes of death—injuries to the brain—lesion of vital functions—affections of nerves—age —Marks indicating death—cessation of the vital functions—insensibility and coldness—stiffness—putrefaction—General observations on other marks, as collapse of the eye, and the like—General conclusion respecting the characteristics of death.

Observations on resuscitation in cases of apparent death—General principles on which a recovery is to be attempted—Remarks on different practices which have been recommended—Account of the plan of procedure which should in general be adopted.

14. *Of the Peculiarities of the Male.*

OBSERVATIONS on the secretion of semen by the testicles—The state of the semen as it is discharged—Observations on the use of the semen in generation—effects which it produces in the system by which it is secreted—Observations respecting the influence which it has on the passions of the mind—on the state of the muscular fibres in general—on the state of the voice—on the growth of the beard in men—on the size and fatness of the body in different animals—Observations on morbid affections resulting from alterations in the condition of the semen.

Remarks on the erection of the penis—Circumstances on which it immediately depends—View of different theories on which it has been accounted for—Inquiry whether it proceeds from obstruction to the return of the blood from the cells of the penis, or from an increased flow of the blood into these cells—Examination of the opinion which supposes

that it proceeds from an action of nervous filaments surrounding the veins of the penis—from an action of the vena ipsius penis—from an increased action of the smaller vessels of the penis—Remarks on some circumstances which have been supposed to assist the erection of the penis—a full state of the urinary bladder—action of the levatores ani muscles—the stimulus of the semen—the distension of the vesiculæ seminales—Observations on different morbid affections from the condition of erection—Defective erection—Violent erection Painful erection—Impotence in the discharge of semen—Want of due retention of semen.

15. *Of the Peculiarities of the Female.*

OBSERVATIONS on the menstrual flux—An account of the phenomena commonly attending menstruation—A view of different theories on which the menstrual discharge has been attempted to be accounted for.

A view of the arguments brought in favour of the supposition, that the menses depend on general plethora—Conclusions drawn from the position and structure of the uterus—from the necessity of a constant disposition to plethora in female habits—from a state analogous to the menses being induced in men by habitual bloodlettings—from the increase and acceleration of the menstrual discharge by high and plentiful feeding, sedentary life, the amputation of a limb, or similar circumstances—from the diminution of the menses by activity, spare diet, and the like—Answers to the different arguments drawn from these facts—Objections to the hypothesis—from the appearance of the menses with females when they are not in a plethoric state, and when there is even manifest proof of a high degree of inanition—from the frequent existence of a plethoric state in females, without any menstruation, when there is no reason to suspect any cause producing obstruction—from plethora not being removed by menstruation, when

that discharge occurs with such a state of the system.

Examination of the opinion which supposes menstruation to depend on partial plethora—proof that the vessels of the uterus, at different times, contain very different quantities of blood—Evidence of the existence of partial plethora in the vessels of the uterus previous to menstruation—from symptoms preceding the discharge—from dissections near the menstrual period—Inquiry how far the existence of partial plethora is sufficient to explain all the phenomena of menstruation—Reasons for believing that it is not a cause fully adequate to the effect—from the regularity of the discharge in point of time—from the relief afforded by vicarious evacuations happening at the menstrual period, when the discharge is obstructed.

Examination of the opinion which supposes, that on partial plethora there occurs an hæmorrhagic effort, regulated by the laws of the nervous system—Objections to this hypothesis—from circumstances attending those evacuations which supply

the place of the menses—from different causes which obstruct menstruation—from the suspension of the menses during pregnancy and nursing.

Some account of a conjecture which supposes, that, with partial plethora, there occurs, at the time of menstruation, a peculiar action of the uterus itself, somewhat similar to that which happens in the impregnated state, occasioning delivery at the end of a determined period—Arguments in favour of this supposition—from the analogy of the impregnated uterus—from the regularity of the menstrual discharge—from the relief in cases of obstructed menses when evacuations of blood occur naturally—from the explanation which this hypothesis affords for many of the most intricate phenomena of menstruation—for the first appearance of the menses at a particular period of life—for the periodical return of that discharge—for the limitation of it to a certain age—for the obstruction of it during pregnancy and nursing.

Remarks on the use of menstruation in the female economy—The influence which

it has in generation—Objections to the supposition that it is intended for the nutrition of the fœtus—Account of a conjecture that the menstrual discharge may serve to give a condition to the vessels of the uterus necessary for impregnation—Arguments in favour of this opinion—from the effects which hæmorrhage has on other parts—from the method in which women commonly reckon their pregnancy—from the existence of a state analogous to the menses in many other animals previous to conception.

Morbid Affections of Menstruation.

I. Obstruction of the menstrual discharge.
   a. From the want of proper accumulation of blood in the uterine vessels.
   b. From the want of due periodical contraction.
   c. From obstruction to the passage of blood into the cavity of the uterus.

II. Preternatural increase of the menstrual discharge.
   a. From uncommon determination of blood to the uterus.

b. From increased action of that viscus.

c. From the want of due resistance to the impetus of blood at the uterus.

16. *Of Generation.*

View of the different stages to which this function may be referred.

Coition—Inquiry whether the semen of the male be thrown into the uterus of the female—Inquiry respecting the existence of ova in the ovaria of females.

Conception—View of different opinions on this subject—Account of the supposition of the mixture of male and female semen—of the mixture of the male semen with the menstrual blood—of a peculiar sensation excited by the stimulus of the male semen on the os tincæ—of the introduction of an animalcule from the male semen into an ovum from the female—of the conjunction of organic particles from the male and female semen—Observations on the experiments and hypothesis of the Count de Buffon on this subject.

Pregnancy—Observations on the growth of the fœtus—on the nutrition of the fœtus —on parts lodged in the uterus connected with the fœtus—on the changes which the uterus itself undergoes in pregnancy.

Delivery—Remarks on the signs of approaching delivery — account of the actions by which delivery is effected—conjectures respecting the causes inducing these actions—Observations on the principal morbid affections occurring in the various stages of generation — Monsters — Extra-uterine conception — Superfœtation —Mola or false conception—Abortion.

HEADS OF LECTURES

ON

GENERAL THERAPEUTICS,

OR THE

METHODUS MEDENDI.

Heads of Lectures on General Therapeutics, or the Methodus Medendi.

INTRODUCTION.

DEFINITION of this branch of the institutions of medicine—its connexion with Pathological Physiology—with the Practice of Physic strictly so called—with the Materia Medica—Circumstances in which it differs from these.

View of indications in the cure of diseases to be afforded by therapeutics—Observations on the nature of indications—Explanation of the terms *indicans*, *indicatio*, and *indicatum*—Observations on the kinds of indications mentioned by medical writers—conservatory—preservatory

—curative—palliative—Rules in forming indications—regard to the method of nature —to age, sex, temperament, and idiosyncrasy —to times and circumstances of disease —to what experience has shewn to be healthful or hurtful, or to the *juvantia* and *lædentia*.

Observations on the different plans followed in considering the methodus medendi—Objections to a general systematic arrangement—illustrations of these objections from Dr Cullen's arrangement, according to curative indications—Advantage of arranging the articles of the methodus medendi under natural associations or independent classes—multiplicity of classes of this kind from the earliest periods of medicine—reasons for rejecting many of these —for selecting twenty-four classes, afterwards to be considered.

Plan to be followed in treating of each class—Observations on the nature of the class—a definition of the class—its primary or direct effects—the changes induced from these, or its secondary effects—the different orders into which it may be di-

vided—Observations on the use of the class—indications of cure deduced from its nature—circumstances influencing the choice of orders—Cautions to be attended to in the employment of the class—contra-indications to its use.

I. EMETICS.

General properties characterizing emetics—Primary effects resulting from their employment — they excite nausea—they produce the action of vomiting—they occasion sudden and opposite changes in the circulation—they increase the secretion or discharge of secreted matter, from the various glands and other secretory organs which prepare fluids to be deposited in the upper part of the alimentary canal—Changes in the system from the primary effects of emetics—the evacuation of the stomach, and in some degree of the upper part of the intestinal canal—free circula-

tion through the stomach, intestines and glands connected with these organs—general agitation of the body—commotion of the nervous system—a particular affection of the surface.

Different orders of emetics—*Emetica irritantia—E. calefacientia—E. nauseosa—E. narcotica.*

Indications in the cure of diseases which emetics are fitted to fulfil.

1. From the general agitation of the system which they produce,

To restore uniform circulation,

To promote lymphatic absorption when diminished,

To remove obstructions in the sanguiferous system.

2. From the evacuation which they occasion by vomiting.

To discharge noxious matter taken into the stomach by the mouth,

To discharge morbid accumulations of secreted matter lodged in the stomach,

To evacuate serous accumulations.

3. From the affection of the nervous system which they occasion.

To restore excitement to the nervous power.

To obviate inordinate affections of the nervous energy.

Illustrations of these indications from remarks on the use of emetics in particular diseases—fever—dysentery—phthisis—jaundice—dropsy—poisons.

Circumstances to be attended to respecting the choice of particular orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of emetics deduced from the nature of the class—agitation of the system—increased celerity of the pulse—Conditions of the system suggesting caution in their employment—infancy—old age—pregnancy—delicacy of habit—a plethoric state—Cautions with respect to regimen during the administration of eme-

tics—The state of the stomach when the emetic is exhibited—The means of facilitating the operation of the emetic—The time of exhibition—The temperature in which the patient ought to be kept after the operation of the emetic is finished.

Circumstances contra-indicating the employment of emetics—rupture or relaxation of containing vessels—topical inflammation of viscera—a high degree of debility in internal parts—fixed obstructions to the circulation.

II. CATHARTICS.

General characteristics of cathartics—Primary effects resulting from the employment of them—they stimulate the intestinal canal—they increase the peristaltic motion of the intestines—they promote the secretion of those fluids which, for the purposes of the economy, are requisite in the

intestinal canal—they produce more frequent and looser stools.

Changes in the system from the primary effects of cathartics—the evacuation of the contents of the intestines—a diminution of the quantity of circulating fluids, and in a particular manner of the serosity—a change in the balance of circulation—a diminution of perspiration—higher mobility in the system in general, but more especially in the intestinal canal.

Different orders of cathartics—*Cathartica stimulantia—C. refrigerantia—C. adstringentia—C. emollientia—C. narcotica.*

Indications in the cure of diseases which cathartics are capable of fulfilling.

1. From the evacuation which they produce,

To obviate morbid retention of the contents of the intestines,

To diminish the quantity of circulating fluids, when too great for the state of the system at the time,

To evacuate morbid accumulations of serum.

2. From altering the balance of circulation,

To promote free circulation through the intestines when morbidly impeded,
To diminish the impetus of blood against parts morbidly affected.

3. From the affection of the nervous system which they occasion,

To remove a state of torpor in the muscular fibres of the intestines,
To restrain inordinate motions of these muscular fibres.

Illustration of these indications from remarks on the use of cathartics in particular diseases — dysenteria — variola—hydrops—amenorrhœa—diarrhœa.

Circumstances to be attended to respecting the choice of orders for fulfilling particular indications.

Circumstances suggesting cautions in the employment of cathartics, derived from

the nature of the class—The degree of evacuation which they produce—the topical irritation which they occasion to the intestines themselves — Conditions of the system suggesting caution in the employment of them—childhood—female habits — hysterical constitutions — high degrees of irritability and torpor—remarkable delicacy of the stomach — peculiar antipathies.

Cautions with respect to regimen during the administration of cathartics—the mode of exhibiting the cathartic — the temperature in which the patient is to be kept during its operation—the diet to be employed—the degree of exercise to be used.

Circumstances contra-indicating the employment of particular orders of cathartics—general inanition—a high degree of irritability in the intestines — circulation morbidly accelerated — circulation uncommonly languid—habitual costiveness—uncommon relaxation of the intestines.

III. DIAPHORETICS.

General properties characterizing diaphoretics—Primary effects resulting from the employment of them—they accelerate the motion of the blood—they produce free circulation through the vessels on the surface—they excite a discharge of sweat.

Changes in the system from the primary effects of diaphoretics—an alteration in the balance of circulation—a diminution of the quantity of circulating fluids—a diminution more particularly of the serosity.

Different orders of diaphoretics—*Diaphoretica calefacientia—D. pungentia—D. stimulantia—D. antispasmodica—D. diluentia.*

Indications in the cure of diseases which diaphoretics are capable of fulfilling.

1. From changing the mode of circulation,

To obviate morbid determination of blood to different viscera,

To remove various causes obstructing or impeding circulation on the surface,

To restore the natural discharge which should take place by the surface.

2. From producing evacuation,

To diminish the quantity of circulating fluids, when too great for the state of the system at the time,

To restore lymphatic absorption when morbidly diminishe d

To discharge morbid accumulations of serum.

Illustration of these indications from remarks on the use of diaphoretics in particular diseases — fever — rheumatism — dropsy—herpetic affections.

Circumstances claiming attention in the choice of orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of diaphoretics, derived from

the nature of the class—The determination which they produce to the surface—the acceleration of the motion of the blood which they occasion—the debility which is the consequence of a profuse discharge of sweat—the effects produced on the vessels of the surface by the free passage of blood through them.

Conditions of the system suggesting cautions in the employment of diaphoretics — infancy — lax and debilitated habits — Constitutions liable to costiveness —Constitutions not easily acted upon by diaphoretics.

Cautions with respect to regimen during the administration of diaphoretics — the use of liquids—the temperature in which the patient is to be kept—The means of promoting sweating adapted to particular constitutions.

Circumstances contra-indicating the employment of diaphoretics—a morbid increase of determination to the surface—uncommon relaxation of the system — a high degree of inanition—a morbid dimi-

nution of the impetus of the blood at the brain.

IV. EPISPASTICS.

General properties characterizing epispastics—Primary effects resulting from the employment of epispastics — they excite pain—they increase the quantity of fluids circulating through the part to which they are applied—they produce a discharge under the form of serosity—they produce a discharge of pus.

Changes in the system from the primary effects of epispastics—Attention to the sensation of pain excited—an increase of excitement in the nervous energy through the system in general—an uncommon determination of blood to the part acted upon—a diminution of the quantity of blood passing through the bloodvessels in the neighbourhood of those in which the flow is increased—a permanent change in the mode of circulation—a diminution of the

quantity of circulating fluids—a diminution more particularly of the serous part of the blood.

Different orders of epispastics—*Epispastica rubefacientia—E. vesicantia—E. suppurantia.*

Indications in the cure of diseases which epispastics are fitted to fulfil.

1. From their action on the nervous system,

To diminish violent pain,
To take off the effects of uncommon sensibility,
To remove torpor.

2. From the alteration which they produce in the balance of circulation,

To diminish the impetus of the blood against parts morbidly affected,
To remove a morbid increase of action in vessels in the neighbourhood of those to which they are applied.

5. From the evacuation which they produce,

To diminish the quantity of circulating fluids, when too great for the state of the system at the time,

To evacuate morbid accumulations of serum.

Illustrations of these indications from remarks on the use of epispastics in particular diseases — odontalgia—hæmorrhagia—apoplexia—hepatitis—hydrocephalus.

Circumstances claiming attention in the choice of orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of epispastics from the nature of the class—the pain which is occasioned by their action—the inflammation they excite in the part to which they have been applied—the strangury which is a frequent attendant of their operation.

Conditions of the system suggesting caution in the employment of epispastics—the female habit during the menstrual flux—lax and debilitated habits.

Cautions with respect to regimen during the administration of epispastics—the accommodation of diet and temperature to the disease of the patient—the use of demulcents and diluents—the length of time for which the epispastica vesicantia should be applied—the treatment of the part after their removal—the continuance of the epispastica suppurantia.

Circumstances contra-indicating the employment of epispastics—a high degree of irritability in the system in general—morbid spissitude of the blood—a state of general inanition.

V. DIURETICS.

General properties characterizing diuretics—Primary effects resulting from the employment of them—they promote the secretion of urine—they promote the excretion of urine.

Changes in the system from the primary effects of diuretics — a change in the balance of circulation — a diminution of the quantity of circulating fluids, but especially of serosity and saline matter —an increase of absorption by the lymphatics—a diminution of perspiration—an increased flow of liquid through the urinary passages.

Different orders of diuretics—*Diuretica stimulantia — D. refrigerantia — D. diluentia—D. narcotica.*

Indications in the cure of diseases which diuretics are fitted to fulfil.

1. From the evacuation which they produce,

To remove superabundant serosity from the blood,

To evacuate morbid accumulations of serum,

To remove morbid acrimony from the blood,

To diminish the quantity of circulating

fluids when too great for the state of the system at the time.

2. From the alteration which they occasion in the balance of circulation,

To restore the natural secretion of urine when morbidly diminished,
To diminish other secretions when morbidly augmented.

3. From augmentation of the flow of liquid through the urinary passages,

To remove obstructions in the urinary passages,
To wash out acrimony from the urinary passages.

Illustrations of these indications from remarks on the use of diuretics in particular diseases—ascites—icterus—nephritis.

Circumstancs to be attended to respecting the choice of orders for fulfilling particular indications.

Circumstances from the nature of the class suggesting caution in the employ-

ment of diuretics—sudden evacuation—changes in the secretion by the kidney—flow of liquid through the urinary passages.

Conditions of the system suggesting caution in the employment of diuretics—the state of the discharge by urine previous to the use of them—peculiarities in the habit affecting their operation.

Cautions respecting regimen during the operation of diuretics — use of liquids — temperature—diet.

Circumstances contra-indicating the employment of certain diuretics—a high degree of morbid sensibility in the kidney—a morbid increase of the secretion of urine—fixed obstructions in the urinary passages—deficiency of serosity in the blood—redundance of serosity in the blood.

VI. EXPECTORANTS.

General properties characterizing expectorants—Primary effects resulting from the employment of expectorants — they stimulate the lungs—they augment the secretion taking place by the mucous glands of the lungs—they increase the excretion of mucus from the lungs.

Changes in the system from the primary effects of expectorants—an alteration in the state of the mucus excreted—an increase of the sensibility of the lungs—free circulation through the bloodvessels of the secreting organs—evacuation of those cavities in the lungs in which mucus is deposited.

Different orders of expectorants—*Expectorantia nauseosa—E. stimulantia—E. antispasmodica—E. irritantia.*

Indications in the cure of diseases which expectorants are fitted to fulfil.

1. From affecting the secretion of mucus,

To promote the secretion by the lungs when morbidly diminished,

To render the mucus thinner when morbidly thick and viscid.

2. From affecting the excretion of mucus,

To evacuate morbid accumulations of mucus in the lungs,

To supply irritation to the lungs when morbidly deficient.

3. From affecting the state of the lungs themselves,

To remove morbid insensibility in the lungs,

To promote free circulation through the lungs, when morbidly impeded there.

Illustration of these indications from remarks on the use of expectorants in particular diseases—catarrh—peripneumony.

Circumstances claiming attention in the choice of different orders of expectorants for fulfilling particular indications.

Circumstances suggesting cautions in the employment of expectorants derived from the nature of the class—the nausea they excite—their effect in accelerating circulation — their influence as irritating the lungs.

Conditions of the system suggesting cautions in the employment of expectorants—the state of irritability in the lungs—the period of life.

Cautions with respect to regimen during the use of expectorants—the employment of diet favouring expectoration—exercise —dry and pure air.

Circumstances contra-indicating the employment of expectorants—a high degree of increased sensibility in the lungs—uncommonly quick expectoration of mucus from the lungs.

VII. ERRHINES.

General properties characterizing errhines—Primary effects resulting from the employment of them—they produce a sense of titillation in the nose—they excite the action of sneezing—they occasion the expulsion of secreted mucus from different cavities into which it is deposited—they augment the secretion of mucus from the organs separating it in the cavity of the nose.

Changes resulting from the primary effects of errhines—violent agitation of the body in general—commotion of the nervous system—sudden changes in the circulation—a diminution of the quantity of circulating fluids—more free circulation through the mucous glands on which the sternutatory acts—a change in the balance of circulation between the nose and neighbouring parts.

Different orders of errhines—*Errhina sternutatoria—E. evacuantia.*

Indications in the cure of diseases which errhines are fitted to fulfil.

1. From the agitation of the system which they produce,

To discharge morbid accumulations of mucus from the cavities surrounding the nose,

To remove a state of torpor in the nervous system,

To obviate nervous affections of the convulsive and spasmodic kind.

2. From the determination which they produce to the nose,

To promote the secretion of mucus in the nose, when morbidly diminished,

To occasion derivation from parts morbidly affected in the neighbourhood of the nose.

Illustration of these indications from remarks on the use of errhines in particular diseases—palsy—headach—ophthalmia.

Circumstances to be attended to in the choice of orders.

Circumstances suggesting caution in the employment of errhines, derived from the nature of the class—the agitation of the system which they produce—the change in determination which they occasion.

Conditions of the system suggesting caution in the employment of errhines—old age—irritability of habit—disposition to hæmorrhage—a torpid state—former habits.

Cautions with respect to regimen during the administration of errhines—means of obviating inflammation when excited—influence of sudden exposure to cold.

Circumstances contra-indicating the employment of errhines—a high degree of plethora—uncommon sensibility of the nose—preternatural determination to the nose—ulceration of the nose, or neighbouring parts.

VIII. SIALAGOGUES.

Definition—Primary effects—they stimulate the salivary glands or their excretories, and increase the action of the vessels secreting saliva—they accelerate circulation through the salivary glands, and through bloodvessels in the neighbourhood of these—they produce a preternatural discharge of saliva.

Changes resulting from the primary effects of sialagogues—an alteration of the distribution of fluids circulating through the vessels to which the action of the sialagogue extends, and through the vessels in the neighbourhood of these—a diminution of the quantity of circulating fluids—a change in the nature of the remaining mass, independently of the diminution of quantity.

Different orders of sialagogues—*Sialagoga topica.—S. interna.*

Indications in the cure of diseases which sialagogues are fitted to fulfil.

1. From the alteration which they induce in the balance of circulation,

To diminish the impetus of the blood against parts morbidly affected in the neighbourhood of the salivary glands,

To diminish morbidly increased action in these neighbouring vessels,

To promote free circulation through the salivary glands when morbidly obstructed.

2. From the evacuation which they occasion,

To discharge morbid accumulations of serum,

To produce a change in the fluids when morbidly vitiated.

Illustration of these indications from remarks on the use of sialagogues in particular diseases—toothach—cynanche—dropsy—syphilis.

Circumstances influencing the choice of different orders of sialagogues for fulfilling particular indications.

Circumstances suggesting caution in the employment of sialagogues, deduced from the nature of the class—their influence in stimulating the salivary glands and neighbouring parts—the time required for their action—the influence of their action on other parts—the debility which they induce.

Conditions of the system suggesting caution in the employment of them—old age—constitutions habituated to topical sialagogues—peculiarities in constitution determining the operation of internal sialagogues to other parts—the menstrual discharge—pregnancy.

Cautions with respect to regimen during the use of sialagogues—the preservation of moderate temperature—mild diet—the free use of diluents—the use of different gargarisms—the use of moderate exercise.

Circumstances contra-indicating the employment of sialagogues—uncommon determination to the salivary glands—pre-

ternatural sensibility of these glands—deficiency of serosity in the circulating mass—a high degree of inanition—general debility of the system.

IX. BLOOD-LETTING.

Modes of cure to be comprehended under the title of blood-letting — Primary effects arising from these—they remove part of the circulating fluids—they produce a temporary increase of the celerity of the pulse—they diminish animal heat—they change the distribution of blood in the system.

Changes in the system from the primary effects of blood-letting—a diminution of the quantity of the blood, and of the tension of the bloodvessels—a diminution of the celerity and impetus of the blood through the system in general—a diminution more particularly of impetus in parts in the

neighbourhood of those from which the discharge is made—a diminution of the quantity of fluids separated by different secretory organs.

Division of the different modes of blood-letting—*General—Topical.*

Indications in the cure of diseases which blood-letting is fitted to fulfil.

1. From the abstraction of blood,

To diminish the quantity of circulating fluids, when too great for the state of the system at the time,

To take off morbid tension in the sanguiferous system.

2. From altering the state of motion in the blood,

To lessen the impetus of circulation when morbidly affected.

To moderate morbid heat.

3. From altering the course of the blood.

To diminish action morbidly increased in particular vessels,

To lessen the impetus of the blood against parts morbidly affected.

Illustration of these indications from the use of blood-letting in particular diseases.

Circumstance to be attended to respecting the choice of different modes of blood-letting, as accommodated to particular indications.

Circumstances from the nature of blood-letting suggesting cautions in the employment of it—the state of the pulse during the discharge—the quantity of blood discharged — the appearance of the blood when discharged—the effect of the discharge as inducing deliquium.

Conditions of the system suggesting cautions in the employment of blood-letting — certain periods of life — particular urgent symptoms where blood-letting is adverse to the nature of the disease—the time of critical discharges—high degrees of irritability and torpor.

Cautions regarding regimen where blood-letting is employed—diet—time of performing the operation—mode of discharge.

Circumstances contra-indicating blood-letting—general inanition of the system—the circulation remarkably weak and languid—a high degree of debility.

X. EMMENAGOGUES.

Modes of cure to be considered under the title of emenagogues — Primary effects resulting from them—they stimulate the circulating system — they more particularly stimulate the vessels in the neighbourhood of the uterus, an effect in some degree communicated to the vessels of the uterus themselves—they occasion a particular affection of the nervous system.

Changes in the system from the primary effects of emmenagogues—an increase of

the momentum of the blood through the uterus and neighbouring parts—an augmentation of the quantity of blood determined to the uterus—a change in the tonic power of the vessels of the uterus.

Different orders of emmenagogues—*Emmenagoga stimulantia—E. irritantia—E. tonica.—E. antispasmodica.*

Indications deduced from the nature of the class, by operating in fulfilling which, they remove amenorrhœa.

1. From changing the mode of circulation,

To promote free circulation in the neighbourhood of the uterus, when morbidly obstructed there,

To promote that accumulation of blood in the uterine vessels which is necessary for the menstrual discharge,

To remove morbid obstruction to the passage of blood into the cavity of the uterus.

2. From their influence as acting on the state of the animated solid,

To increase the tonic power of the system when morbidly diminished,

To increase tonic power in the vessels of the uterus in particular, when morbidly deficient.

To remove spasmodic stricture taking place in the vessels of the uterus.

Circumstances to be attended to respecting the choice of orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of emmenagogues, deduced from the nature of the class—the consequences of restoration of the menstrual discharge if pushed too far—the irritation occasioned to the intestines—the stimulus to the system in general.

Conditions of the system suggesting caution in the employment of emmenagogues—the age of the patient—former complaints to which she may have been liable—the duration of the present complaints.

Cautions with respect to regimen during the use of emmenagogues—temperature—exercise—diet.

Contra-indications to emmenagogues—Conditions contra-indicating the whole class—a high degree of inanition—particular topical affections of the uterus—a particular period of life—morbid conditions contra-indicating particular orders.

XI. ANTHELMINTICS.

General properties characterizing this association — Effects resulting from their use, particularly those exerted on the worms themselves — they kill worms to which they come to be applied in the body —they expel worms from the body— they prevent the generation of worms in the body — Changes resulting from these effects.

Different orders of anthelmintics—*Anthelmintica venenosa*—*A. lubricantia*—*A. tonica*—*A. Cathartica.*

Indications in the cure of diseases which anthelmintics are fitted to fulfil.

1. From acting on the worms themselves,

To kill worms lodged in different parts of the human body.

2. From their action on the system in which the worms are lodged,

To promote the expulsion of worms from the body, whether dead or alive,

To prevent the generation of worms in the body.

Circumstances to be attended to respecting the choice of orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of anthelmintics—effects oc-

curring independent of their action as anthelmintics—age—diet—exercise.

Circumstances contra-indicating the employment of particular orders of anthelmintics.

XII. LITHONTRIPTICS.

General properties characterizing the articles to be treated off under the title of Lithontriptics — Primary effects of these articles — they destroy acid contained in the stomach — they brace the muscular fibres of the primæ viæ—they produce an analogous effect on other moving solids.

Changes resulting from these effects—an alteration in the state of the circulating fluids, as a pabulum for the secretion of urine—an alteration on the state of secretion at the kidney.

Different orders of lithontriptics — *Lithontriptica antacida—L. adstringentia.*

Indications which lithontriptics are fitted to fulfil.

1. From altering the state of the solids,

To obviate particular morbid laxity in the stomach,

To obviate particular morbid laxity in the kidney.

2. From altering the state of the fluids,

To correct a peculiar morbid state in the pabulum furnished for the secretion of urine.

Circumstances to be attended to respecting the choice of orders for fulfilling particular indications.

Circumstances suggesting caution in the employment of lithontriptics.

Circumstances contra-indicating the employment of particular lithontriptics—influence of alkali in its caustic state on the system—consequences when the operation of lithotomy is performed, after the long-continued use of certain lithontriptics.

XIII. ANTACIDS.

General properties characterizing antacids—Effects in destroying acid in the alimentary canal—consequences resulting from thence.

Different orders of antacids—*Antacida eccoprotica—A. restringentia.*

Indications which they are fitted to fulfil, as destroying acid in the primæ viæ,

To remove a sensation of sourness in the stomach,

To restore the natural appetite when morbidly vitiated by acid in the stomach,

To restore the natural action of the alimentary canal, when disordered from the presence of acid.

Illustration of these indications from their use in different diseases.

Circumstances suggesting cautions in the employment of antacids.

Circumstances contra-indicating the employment of antacids—alkalescency in the primæ viæ—a tendency to putrescency in the system.

XIV. ANTALKALINES.

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To counteract morbid viscidity in the circulating mass,

To restore free circulation when morbidly obstructed in the extreme vessels.

2. From affecting the secretions,

To increase the quantity of the serous secretions when morbidly deficient,

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To supply an antiseptic power when morbidly deficient in the system,

To obviate the assimilating quality of any putrescent ferment when introduced into the body.

2. From their influence as obviating putrefaction when already begun,

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Indications in the cure of diseases which astringents are fitted to fulfil.

1. From altering the condition of the moving solids,

To obviate original delicacy,
To restore natural compactness to parts morbidly relaxed,
To restore diminished tonic power,
To diminish irritability when morbidly increased.

2. From altering the state of containing vessels,

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To remove morbid sensibility in the nerves of particular parts,

To facilitate and render effectual openings into particular lodgments of matter.

2. From producing a diminution or destruction of parts,

To remove morbid excrescences or indurations.

3. From producing a discharge of purulent matter,

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Different orders of demulcents—*Demulcentia lenientia—D. diluentia.*

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To prevent the action of morbid stimuli.

2. From their action on stimulating fluids,

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Indications in the cure of diseases which stimulants are fitted to fulfil.

1. From affecting the circulation,

To facilitate the passage of blood, through parts in which it is morbidly obstructed,

To augment the force and celerity of circulation, when morbidly slow and weak.

2. From affecting the powers of sensation,

To quicken the external senses when morbidly torpid,

To rouse the mental faculties when in a lethargic state,

To exhilarate a despondent condition.

3. From affecting the moving fibres,

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To increase the strength of motion when morbidly weak.

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1. From affecting the condition of circulation,

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To diminish the impetus of the blood against parts morbidly affected, whether the impetus be morbidly augmented or not.

2. From affecting the powers of sensation,

To abate violent pain.

To procure sleep in cases of preternatural watchfulness.

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To restrain inordinate motions,

To moderate excessive evacuations.

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